Objections to the Drawings

The Examiner objected to the drawings under 37 C.F.R. § 1.83(a) as not showing every feature of the invention specified in the claims. The Examiner notes that the features of Claims 1, 5, and 27-29 must be shown or the feature(s) canceled from the claim(s).

Reconsideration of this objection is respectfully requested in that the figures are believed to show every feature of the claims. Specifically, Figure 6 is a cross-sectional view of a luminaire 11 that includes linear prisms 12' that alternate or flip-flop orientation along the light guide 10'. Figure 10 is a cross-sectional view taken along line 10-10 of Figure 6 and shows a second cross-sectional profile oriented about perpendicular to the peaks 26 and valleys 28 illustrated in Figure 6. Thus, two cross-sectional profiles of Figures 6 and 10 intersect at about right angles. Since the Examiner objected to the phrasing of the same prism array having linear prisms that include peaks and valleys that alternate orientation along a first axis and a second axis, the specification and claims have been amended to recite that the prism array includes a cross-sectional profile that alternates orientation along the light guide (*see, e.g.*, Figures 2 and 6 and Claim 1). The prism array can also include a second cross-sectional profile that alternates orientation along a different axis (*see, e.g.*, Claim 5 and Figure 10). The prism array can also include a third cross-sectional profile that alternates orientation along a different axis than the first and second cross-sectional profiles (*see, e.g.*, Figures 13A-13D).

It is noted that no new matter has been added in that the amended specification and claims are describing and claiming the same luminaire as originally filed, that is, the specification and claims have been amended to overcome the Examiner's objection, for example, to recite a second and third cross-sectional profile of the prism array.

The same arguments apply to the description of the luminaire of Figures 13A-13D, which describe a luminaire having three cross-sectional profiles that intersect one another at about 60 degrees. Support in the originally filed specification for these amendments is found on page 2, lines 5-10 and 14-15; page 10, lines 3-14; Claims 5, 6, 20, 28, and 32; and Figures 6, 10, and 11

of the originally filed application. No new matter has been added. A complete set of the formal drawings (FIGS. 1-15) is submitted for the Examiner's approval.

Objection to the Specification under 35 U.S.C. § 112, First Paragraph

The Examiner objected to the specification under 35 U.S.C. § 112, first paragraph, as failing to provide an enabling disclosure of the invention. The Examiner states that "[o]n pages 2 to 4 and 10, the description of 'a plurality of tilted prism arrays periodically alternate orientation along a first axis', 'the prism arrays alternate or flip flop in orientation', 'the tilted prism arrays alternate orientation along one or more axes', 'the prism arrays include peaks and valleys that periodically alternate orientation along a second axis different than the first axis', 'the plurality of prism arrays include peaks and valleys that periodically alternate orientation along a third axis which is different than the second axis', and . . . are not understood with respect to drawing figures 12 and 13 and in view of the explanation as set forth above."

These objections are believed to be overcome in view of the amendments to the specification and arguments above. It is respectfully submitted that one of ordinary skill in the art would understand how to practice the claimed invention without undue experimentation. More specifically, one skilled in the art, after reading the originally filed specification at page 2, lines 5-10 and 14-15; page 10, lines 3-14; Claims 5, 6, 20, 28, and 32; and Figures 6, 10, and 11 would understand and be able to construct, without undue exprimentation, a luminaire having a prism array arranged on a surface of a luminaire having one or more cross-sectional profiles that alternate orientation.

Rejection of Claims under 35 U.S.C. § 112, First Paragraph

The Examiner rejected Claims 1-12, 16-18, and 27-33 under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention.

With respect to Claim 1, it is respectfully submitted that it is clear that the prism array (originally filed in Claim 1 as "prism arrays" but now amended to read in the singular for clarity

purposes only) alternates orientation along the light guide, *i.e.*, traversing an axis of the light guide. The prisms 12 are tilted and alternate orientation, *i.e.*, a grouping of the prisms are mirror images with respect to line L (see the originally filed specification at page 4, lines 19-22). Figures 1 and 2 clearly show this embodiment wherein the prisms have a cross-sectional profile that alternates orientation along the light guide.

Claim 5 has been amended to recite that the prism array includes a second cross-sectional profile that alternates orientation along a second axis that is different than the first axis. Support for this amendment is found at least at page 10, lines 3-9 and Figures 6 and 10. Looking along line 10-10 in Figure 6, Figure 10 shows a second cross-sectional profile that flip-flops in orientation and is oriented perpendicular to the cross-sectional profile of the prism array shown in Figure 6. Claim 8 is directed to a third cross-sectional profile as disclosed at page 10, lines 11-14 and illustrated in Figures 13A-13D.

Claims 27-29 and 31-33 have been similarly amended.

It is respectfully submitted that all of the claims fully comply with 35 U.S.C. § 112, first paragraph.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner believes that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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MARKED UP VERSION OF AMENDMENTS

Specification Amendments Under 37 C.F.R. § 1.121(b)(1)(iii)

Replace the paragraph at page 1, line 12 through page 2, line 4 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

A luminaire is provided which includes a light source, a light guide that receives light radiating from the light source, and a [plurality of] tilted prism [arrays] array for redirecting the light in a first direction. In one embodiment, the [plurality of] prism [arrays] array, which can include linear prisms, includes a cross-sectional profile that periodically [alternate] alternates orientation along the light guide. The linear prisms can have included angles of 25, 90, and 65 degrees. The prism [arrays] array can alternate or flip-flop in orientation every few millimeters, for example, one to two millimeters. A tilted prism can have two sides which meet at a peak with a first length from the valley to the peak on one side and a second length from the valley to the peak on a second side of the prism, where the first length is different in length from the second length, thereby tilting or canting the prisms. The tilting angle of the prisms is between the optical axis and a line perpendicular to the window side. The tilting angle can be in the range between about 20 and 70 degrees.

Please replace the paragraph at page 2, lines 5-11 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

The prism [arrays] array can include peaks and valleys that form the cross-sectional profile that alternates along a first axis. The prism [arrays] array can also include a second cross-sectional profile that alternates orientation [peaks and valleys] along a second axis that is different than the first axis, such as substantially perpendicular or offset about 60 degrees relative to the first axis. The

prism [arrays] array can further include [peaks and valleys] a third cross-sectional profile that alternates orientation along a third axis that is different than the second axis and the first axis. In one embodiment, the third axis is offset about 60 degrees relative to the second axis. The [plurality of] prism [arrays] array can be disposed on a top surface of the light guide.

Please replace the paragraph at page 2, lines 12-26 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

An optical microstructure is also provided which includes a [plurality of] tilted prism [arrays] array that periodically [alternate] alternates orientation of the tilted prism [arrays] array along a first axis. The prism [arrays] array can also include a cross-sectional profile that includes peaks and valleys that periodically alternate orientation along a second axis [and, in]. In alternative embodiments, [along a third] the prism array includes another cross-sectional profile that periodically alternates along a third axis. The optical microstructure can be disposed on a first surface of a film. A [plurality of] prism [arrays] array can be disposed on a second surface of the film. The [plurality of] prism [arrays] array on the second surface can be tilted and periodically alternate orientation along at least one axis. The purpose of the periodic alternate orientation of the prism angles is to create alternating bands of bright and dark lines which can be seen viewing the surface of the luminaire. Very small or fine pitch prisms that are not visible to the human eye beyond 0.5 meters can be made to look like macro prisms because of the visibility of the bright and dark bands. Low cost manufacturing concepts, such as continuous casting, can be used to form the precision fine pitch alternating prism groups and achieve the appearance of a precision macro prism, for example, 0.508 to 2.54 mm (0.02 to 0.1 inch) pitch, which would normally be made with a more expensive manufacturing concept, such as compression molding.

Please replace the paragraph at page 3, lines 1-7 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

A method for redirecting light is also provided which includes providing a light source, receiving light radiating from the light source in a light guide, and redirecting the light in a first direction with a [plurality of] tilted prism [arrays] array that includes a cross-sectional view that periodically [alternate] alternates orientation along a first axis. The [plurality of] tilted prism [arrays] array can include [peaks and valleys] a second cross-sectional profile that periodically [alternate] alternates orientation along a second axis that is different than the first axis. The [plurality of] tilted prism [arrays] array can further include a third cross-sectional profile that includes peaks and valleys that periodically alternate orientation along a third axis [which] that is different than the second axis.

Please amend the following sentences in the BRIEF DESCRIPTION OF THE DRAWINGS section added by the last Amendment at page 4, line 7 *et seq.* with the below sentences marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

Figure 12A is a top view of [the] a luminaire [in Figure 6] having two cross-sectional profiles [peaks and valleys] formed at [90] 60 degrees relative to [the longitudinal axes of linear prisms] one another.

Figure 13A is a top view of a luminaire having [peaks and valleys] three cross-sectional profiles formed at 60 degree intervals.

Please replace the paragraph at page 4, lines 13-22 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

Figure 1 is a partial cross-sectional view of a waveguide or light guide 10 for use in a BLDA particularly illustrating the linear prisms 12. The prism angles, in one embodiment, are 25°-90°-65° (90° is the peak angle with a first side of the prism is 25° from the horizontal to peak and a second side of the prism is 65° from the horizontal to the peak). The pitch, or tip to tip spacing, in one embodiment, is in the range from about 0.0508 to 0.254 mm (0.002 to 0.01 inches). The tilting angle, as measured from the peak angle, can be in the range between about 20 and 70 degrees. The

prism [arrays] array preferably [alternate] alternates or [flip-flop] flip-flops in orientation, i.e., [they are] the array includes mirror images with respect to line L. In one embodiment, the prism [arrays flip-flop] array flip-flops every few millimeters, for example, one to two millimeters.

Please replace the paragraph at page 9, line 24 through page 10, line 2 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

The linear prisms 12 as described above can be referred to as a one-dimensional structure. That is, the prism structures 12 have peaks and valleys that form a cross-sectional view running along one axis. In alternative embodiments, the prisms 12 can include multiple-dimensional structures, such as two-dimensional structures and three-dimensional structures that form cross-sectional profiles along second and third axes, respectively.

Please replace the paragraph at page 10, lines 3-14 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

For example, in the embodiment of Figure 6, a two-dimensional prism structure can be constructed by forming peaks 26 and valleys 28, *i.e.*, a second cross-sectional profile, perpendicular to the longitudinal axes of the existing linear prisms 12', i.e., into the paper. Thus, a cross-sectional view taken along line 10-10 is seen in Figure 10. If the prisms are spaced apart, the peaks 26 [will] have a flat portion as also illustrated in Figure 10. Figure 11 illustrates an enlarged view of the prisms of Figure 6 which illustrates peaks 26 and valleys 28 of the prism [arrays] array. This facilitates controlling of the light rays exiting the waveguide at every angle. In alternative embodiments, the [peaks and valleys] prism array can include cross-sectional profiles that can be offset at about 60 degree intervals to provide a three-dimensional structure. In further embodiments, the [peaks and valleys] cross-sectional profiles can be offset at various angles to provide a multiple-dimensional structure.

Please amend the following paragraph that was added in the last Amendment on page 10 by insertion between lines 14 and 15 with the below paragraph marked up by way of bracketing and underlining to show the changes relative to the previous version of the paragraph.

A [perspective view of the] luminaire [in Figure 6] having cross-sectional profiles [peaks and valleys] formed at [90] 60 degrees relative to [the longitudinal axes of linear prisms] one another is shown in [Figure 12] Figures 12A-12C. A [perspective view of a] luminaire having cross-sectional profiles [peaks and valleys] formed at 60 degree intervals is shown in [Figure 13] Figures 13A-13D. A perspective view of a luminaire having multi-planar facets is shown in Figure 14. A perspective view of a luminaire having curved prism tips and valleys is shown in Figure 15.

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

1. (Amended) A luminaire, comprising:

a light source;

a light guide that receives light radiating from the light source; and

a [plurality of tilted] prism [arrays] array for redirecting the light in a first direction, wherein the [plurality of] prism [arrays] array includes a cross-sectional profile that periodically [alternate] alternates orientation along the light guide.

2. (Amended) The luminaire of Claim 1 wherein the [plurality of] prism [arrays include] array includes linear prisms.

4. (Amended) The luminaire of Claim 1 wherein the prism [arrays include] array includes peaks and valleys that form the cross-sectional profile that alternates along a first axis.

5. (Twice Amended) The luminaire of Claim 4 wherein the prism [arrays include] array includes [peaks and valleys] a second cross-sectional profile that alternates orientation along a second axis that is different than the first axis.

8. (Amended) The luminaire of Claim 5 wherein the prism [arrays include] array includes a third cross-sectional profile that alternates orientation [peaks and valleys] along a third axis that is different than the second axis and the first axis.

12. (Amended) The luminaire of Claim 1 wherein the [plurality of] prism [arrays are] array is disposed on a top surface of the light guide.

16. (Amended) The luminaire of Claim 1 wherein the prism [arrays include] array includes prism facets having more than one plane on at least one facet.

17. (Amended) The luminaire of Claim 1 wherein the prism [arrays include] array includes curved prism tips.

18. (Amended) The luminaire of Claim 1 wherein the prism [arrays include] array includes curved valleys.

27. (Amended) A luminaire comprising:

a light source;

a light guide that receives light radiating from the light source; and

a [plurality of] tilted prism [arrays] array for redirecting the light exiting the light guide, the prism [arrays] array including a cross-sectional profile that periodically [alternating] alternates orientation along a first axis.

28. (Amended) The luminaire of Claim 27 wherein the prism [arrays include peaks and valleys] array includes a second cross-sectional profile that periodically [alternate] alternates orientation along a second axis.

29. (Twice Amended) The luminaire of Claim 28 wherein the prism [arrays include] array includes a third cross-sectional profile that [peaks and valleys that] periodically [alternate] alternates orientation along a third axis.

30. (Amended) The luminaire of Claim 27 wherein the [plurality of] prism [arrays are] array is disposed on a top surface of the light guide.

31. (Amended) A method for redirecting light comprising:

providing a light source;

receiving light radiating from the light source in a light guide; and

redirecting the light in a first direction with a [plurality of] tilted prism [arrays] array that includes a cross-sectional profile that periodically [alternate] alternates orientation along a first axis.

32. (Twice Amended) The method of Claim 31 wherein the prism [arrays include] array includes a second cross-sectional profile [peaks and valleys] that [alternate] alternates orientation along a second axis that is different than the first axis.

33. (Twice Amended) The method of Claim [31] 32 wherein the prism [arrays include] array includes a third cross-sectional profile [peaks and valleys] that [alternate] alternates orientation along a third axis that is different than the second axis and the first axis.